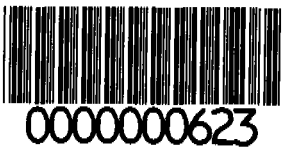

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____	NEW CC&N	____	MAIN EXTENSION
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____	DELETION OF CC&N (TERRITORY)	____	SITING COMMITTEE CASE
____	EXTENSION OF CC&N (TERRITORY)	____	SMALL WATER COMPANY -SURCHARGE (Senate Bill 1252)
____	TARIFF - **NEW (NEXT OPEN MEETING)**	____	SALE OF ASSETS & TRANSFER OF OWNERSHIP
____	REQUEST FOR ARBITRATION (Telecommunication Act)	____	SALE OF ASSETS & CANCELLATION OF CC&N
____	FULLY OR PARTIALLY ARBITRATED INTERCONNECTION AGREEMENT (Telecom. Act.)	____	FUEL ADJUSTER/PGA
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____	VOLUNTARY INTERCONNECTION AGREEMENT (Telecom. Act)		Specify ____

__ 02 **UTILITIES - REVISIONS/AMENDMENTS TO PENDING OR APPROVED MATTERS**

____ APPLICATION
COMPANY ____
DOCKET NO. ____

____ TARIFF
____ PROMOTIONAL
DECISION NO. ____
DOCKET NO. ____
____ COMPLIANCE
DECISION NO. ____
DOCKET NO. ____

__ **SECURITIES or MISCELLANEOUS FILINGS**

____	04	AFFIDAVIT	____	29 STIPULATION
____	12	EXCEPTIONS	____	38 NOTICE OF INTENT (Only notification of future action/no action necessary)
____	18	REQUEST FOR INTERVENTION		
____	48	REQUEST FOR HEARING	____	43 PETITION
____	24	OPPOSITION	____	46 NOTICE OF LIMITED APPEARANCE
____	50	COMPLIANCE ITEM FOR APPROVAL	____	39 **OTHER**
____	32	TESTIMONY		**Specify** ____
____	47	COMMENTS		

____ **Date**

____ **Print Name of Applicant/Company/Contact person/Respondent/Atty.**

____ **Phone**

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Duke Energy Maricopa, LLC ORIGINAL

Annual Report Regarding the Land Management Plan For the Arlington Valley Energy Project

June 2001

Background

On July 25, 2000, the Arizona Corporation Commission issued Decision No. 62740 amended in Decision No. 62995, November 3, 2000 granting a Certificate of Environmental Compatibility to Duke Energy Maricopa, LLC ("Duke Energy"). This Certificate was granted with 14 specific conditions. Condition 13 was added to address concerns raised by the Power Plant and Transmission Line Siting Committee regarding the manner in which Duke Energy was to manage the property it had acquired for water rights.

Specifically, Condition 13 states:

> Applicant shall implement a Land Management Plan that includes:
> (i) Installation of a professionally designed landscape plan for the entrance of the facility and along Elliot Road.
> (ii) A comprehensive revegetation program that will restore a large portion of the property with plant communities similar to the adjacent desert lands.
> (iii) A partnership with The Arizona Game and Fish Department to provide enhanced wildlife habitat on lands that border Centennial Wash.
> (iv) An annual report (for six years) submitted to the Arizona Corporation Commission setting forth the status of the Land Management Plan.

In April 2000, Duke Energy prepared a document entitled Land Management Plan for the Arlington Valley Energy Project. This document was entered into the record, as Exhibit A-6, during Duke Energy's CEC hearing before the Power Plant and Transmission Line Siting Committee. The Land Management Plan divides the property into five distinct zones. Duke Energy and its partners in the Land Management Plan set forth unique management plans for each of the five zones. The five zones and management objectives were set forth in the Land Management Plan as follows:

Zone 1: Landscape Plan

Duke Energy will retain a professional landscaping firm to design and implement a landscape plan for the southern edge of Elliot Road in front of the facility and both sides of the entrance road to the facility to help screen the facility from view.

Zone 2: Agricultural Lands Reclamation – actively farmed

This zone will remain in active agricultural production as long as reasonable to maintain the irrigation ditches in good working order and prevent potential dust and weed problems. When it is no longer reasonable to keep the land in agriculture, the land will be folded into the active reclamation activities described under Zone 3.

Zone 3: Agricultural Lands Reclamation – fallow agricultural land

This zone includes fallow agricultural lands. In order to better understand how to effectively implement a long-term revegetation strategy, Duke Energy has contracted with the University of Arizona. Pursuant to this contract, the University will undertake a study that would investigate revegetation on arid lands. The preliminary plan for the investigation was set forth in the April 2000 Land Management Plan. A revised plan is included in the detailed discussion below.

Zone 4: Wildlife Habitat Management Area

This zone was set aside for cooperative efforts to utilize the land for a wildlife habitat area. To that end, Duke Energy has partnered with the Arizona Game and Fish Department to find appropriate uses of this property.

Zone 5: Centennial Wash

The Land Management Plan proposes to leave this area intact.

Zone 1: Elliot Road and Facility Entrance Road.
Goal: Develop a visual buffer between the facility and Elliot Road.

DENA has contracted with Todd and Associates, Inc., a landscape architectural/planning firm, to complete the landscape design and prepare landscape/irrigation construction documents for the Zone 1 area to meet the criteria as so stated.

The proposed landscape palette has been refined slightly, still utilizing arid-adapted plant species to provide a naturalistic setting along Elliot Road. The proposed plant palette is as indicated on the attached landscape plans (Tab 1).

The initial conceptual landscape plan indicated an approximate 100' wide planting area to receive trees, shrubs, and accent plants along the southern edge of Elliot Road and at the entrance road, with the goal of creating a landscape that replicates a naturally occurring environment. Also, berming was to be provided to create additional visual buffering. As indicated on the attached current plans, the subject area has increased substantially in terms of distance from Elliot Road. The area is much less linear in shape, and extends to the south as far as 350' to 800' from the roadway, thus allowing the opportunity to provide a more naturalistic appearing landscape environment as opposed to a lineal 'streetscape' appearance. This increased area allows for much larger scaled, more naturally contoured berming to be created, and provides more opportunity to plant trees and shrubs along the side slopes and at higher elevations to enhance the visual buffering objective.

The intent of the current landscape plan is to create a landscape of natural appearance. Given the location of the project, and the fact that it is not a goal to create an 'entry statement', all of the plant materials will be arranged in a freeform, random pattern. The initial concept of transitioning from a naturalized landscape to one of a more 'structured appearance' is no longer the intent. The project entry road will vary from the Elliot Road frontage only in the fact that the plant materials at the entry will be of a slightly more lush nature, with more vegetative groundcover and accent plantings to distinguish the entry roadway. Flowering shrubs for seasonal color will be utilized over the entire landscaped area.

Per instructions from the County, all landscape plantings and irrigation will be kept out of the Elliot Road right-of-way. The increase in depth of landscapable area outside of the right-of-way will help to balance the proportion of the landscaped to non-landscaped area. All landscaped areas, as well as the right-of-way area along the south side of Elliot Road will receive a decomposed granite topdressing, of a color and size to replicate the native condition, for dust and weed control

The proposed landscape palette consists of arid-adapted plant species, which are selected for their tolerance to salt and alkalinity. The water source for the irrigation will be from a replacement near the northwest corner of the project site at the Elliot Road frontage. Water from this source, as well as the existing soil conditions, are high in salinity, thus making the plant palette selection critical to the success of the landscape, as well as insuring that the materials must be of an indigenous nature.

Duke Energy has begun implementation of the landscape plan. To date, the landscaping berms have been installed along the Elliot Road corridor.

Zone 2 and 3 : Agricultural Lands.
Goal: Reestablish arid adapted vegetation that is self-sustaining and representative of adjacent plant communities.

As set forth in the April 2000 Land Management Plan, Duke Energy will revegetate a large portion of the fallow agricultural lands. In order to understand how to effectively implement a long-term revegetation strategy, Duke Energy has contracted with the University of Arizona, Office of Arid Lands Studies. Pursuant to this contract, the University will undertake a study that would investigate the best methods for large-scale revegetation on arid lands. The preliminary plan for the investigation was set forth in the April 2000 Land Management Plan. An updated report was prepared by the University of Arizona for inclusion in this document.

ARLINGTON VALLEY RETIRED FARMLAND DESERT REVEGETATION REPORT

Prepared By Travis Bean, Martin M. Karpiscak and Steve Smith
The University of Arizona, Tucson, Arizona
May 2001

I. INTRODUCTION

As part of the Land Management Plan for the Arlington Valley Energy Project, the University of Arizona has begun to study the implementation of a comprehensive revegetation program to restore a large portion of the property with self-sustaining plant communities similar to the adjacent desert lands. The primary purpose of this revegetation program is to return these former agricultural lands to beneficial use as open space that will attract wildlife and enhance the surrounding environment. The scope of this project is large: approximately 1810 acres of retired agricultural land exists on the site, having lain fallow for a period of 5 to 15 years, as well as an additional 910 acres of currently farmed agricultural lands.

An estimated 850 square miles (2,200 square kilometers) of abandoned farmland exists in the Gila and Santa Cruz River Valleys of Arizona (Jackson *et al.*, 1991). Much of this barren land is dominated by exotic annuals such as tumbleweed (*Salsola kali*) and London rocket (*Sisymbrium irio*) (Karpiscak, 1980), existing in stark contrast to native desert lands dominated by creosote bush (*Larrea tridentata*) and saltbush (*Atriplex* spp.). This land is often associated with environmental problems

such as dust pollution, a loss of wildlife habitat, soil erosion and downstream flooding caused by rapid runoff from barren surfaces, tumbleweeds blowing onto roadways and adjacent properties, and auto accidents caused by dust storms. Until recently, there has been little interest in restoring the lowland scrub that is native to this part of the Sonoran desert, most likely due to its uncharismatic nature and a general lack of knowledge about its ecology.

Few studies have been done on the lowland desert vegetation that would have dominated the areas that were developed for agricultural production in the twentieth century. One such study by Shantz and Piemeisel (1924) evaluated the potential of the soils and vegetation for their agronomic potential and encouraged the agricultural development of these areas and another by Karpiscak (1980) evaluating secondary succession on abandoned farmland.

The revegetation of former agricultural lands in Arizona is a complex process involving many challenges and often has little success. This is, in part, due to the fact that establishing arid adapted vegetation on reclaimed agricultural lands is an evolving science and there is a general lack of an established methodology. Few examples exist of attempting revegetation on retired farmland (Jackson *et al.* 1991; Munda 1986) and even fewer on a site as large as the project area (Thacker & Cox 1992). Other concerns include dust management and the management of invasive weeds. Undisturbed or long fallowed agricultural soils develop a physical crust that limits the amount of dust capable of becoming airborne. Any soil disturbing event breaks this crust, which leads to an increased potential for dust problems and provides an establishment site for invasive plant species such as salt cedar and tumbleweed. Any irrigation used to establish native species can further aid in the establishment of such undesirable plants if not managed carefully. Furthermore, new transplants or seedlings are particularly attractive to wildlife, which will already be attracted to any irrigation systems especially during the drier periods of the year.

II. METHODS AND MATERIALS

a. Inventory Of Adjacent Undisturbed Areas

A recent inventory of undisturbed desert lands to the east and west of the site was conducted by the University of Arizona to provide an estimate of local native vegetation parameters. Vegetative density on these areas was estimated at 102 plants per acre (252 plants per hectare) and vegetative cover was estimated at 4 percent using line transects and the nearest individual distance method as described by Barbour *et al.* (1998). Average plant spacings were estimated at 21 feet (6 meters) from any random point to the nearest individual plant. The most abundant species on the adjacent undisturbed lands is creosote bush, which comprises about 60 percent of all plants on the inventoried areas. White bursage (*Ambrosia dumosa*) is the second most abundant species, comprising 25 percent of all plants on the inventoried areas. Other important species occurring on the adjacent lands include velvet mesquite (*Prosopis velutina*), wolfberry (*Lycium exsertum*), desert saltbush (*Atriplex polycarpa*), diamond cholla (*Opuntia ramossissima*), caltclaw acacia (*Acacia greggi*), white ratany (*Krameria grayii*), big galleta (*Hillaria rigida*), and fluffgrass

(*Erioneuron pulchellum*), among others. Plant species were identified according to Kearny and Peebles (1960).

b. Plant Material Sources

Unfortunately, many of the native species found in the inventory are not commercially available. Of those that are, most are not available in sufficient quantities for a project of this scale. None of the available plant materials are source-identified. The most desirable plant materials for use in most restoration projects are those from the primary restoration gene pools (Booth & Jones 2001) of the local native plant species. These would be plants grown from locally collected seed, representing plants that are genetically identical to the populations of interest as a result of proximity and genetic connectivity. A compromise was made in the selection of the plant materials, for the spring 2001, so that the appropriate locally adapted native species could be used, even though the exact origins of the materials were unknown. These materials are representative of the secondary restoration gene pool, as they come from sites geographically isolated from the target population but are theoretically still adapted to the target site.

c. Location of Test Plot

The location of the first experimental plot which was planted during the last week of March 2001 was moved several times. The original location was not used because the last crop (alfalfa) continued relatively strong growth. This location was therefore not representative of the remainder of the recently farmed lands to be revegetated. However, the original location is tentatively scheduled to be planted in the second phase of the experimental plan in the fall of 2001, after the alfalfa has had sufficient time to die. The second and third locations were not utilized for the initial experimental planting either because these locations could not be readily served with irrigation water or they were needed as areas directly tied to the construction of the power generating facility.

The chosen area for the first experimental plantings permitted easy access to irrigation water because of a pre-existing well and intact irrigation canals, and is representative of much of the retired farmland in its state of vegetation and in its developed soil crust. This means that we have begun phase 1 of the revegetation plan on fallow lands representative of zone 3. In the fall of 2001 we will expand the revegetation effort to include currently irrigated lands from zone 2 as well.

d. Design of Test Plot

The test plot was designed to evaluate the effectiveness of different techniques in establishing native vegetation. The test plot measures approximately 1,200 ft by 720

ft (400 m by 240 m) (E-W by N-S), or 20 acres (8 ha). A concrete lined irrigation carry ditch runs along the west side of the plot. Rows representing different treatments were spaced 10 ft (3 m) apart and run in an east to west direction. Each row is 1100 ft long, (370 m) leaving 50 ft (16 m) at each end for equipment to maneuver. Rows are randomly arranged in four blocks of 13 rows each. Each block contains the same 13 randomly arranged treatments, which allows us to evaluate the effects of environmental variations within the field. A fence was constructed around the perimeter of the four blocks, and 15 additional rows were placed outside the fence to evaluate the effects of herbivory.

e. Techniques Implemented

The techniques attempted in the test plot are represented in the row treatments. Treatments include different combinations of watering regime, plant materials, and field preparations. The different watering regimes tested include no water, furrow irrigation, and drip irrigation. These watering regimes were tested in conjunction with mechanically transplanted liners, manually transplanted liners, manually transplanted 1-gallon plants, a native seed mix applied with a no-till grain drill at high density, a native seed mix applied with a no-till grain drill at low density, and no plant materials at all. Deep ripping and the fertigation application of a pre-emergent herbicide were then applied to certain treatment combinations. We were hoping to pre-irrigate select rows before planting, but the pump became operational only a few days before the planting and so there was not enough time to permit it.

f. Techniques of Future Interest

In the future, we will arrange for seed to be locally collected from adjacent native populations. Transplants grown with this seed to be used to produce seed for future plantings. It may also be seeded alone or in conjunction with transplants. Seed is relatively inexpensive, but establishment is slow and unreliable in an area with such a low precipitation (5-7 in/yr. (122 mm –171mm/yr)). Supplemental irrigation might be used, but then invasive weeds may become a problem. Therefore dryland seeding is an option that will probably be considered for only some of the long-retired areas where an irrigation infrastructure is no longer operational. Elsewhere, transplants may be emphasized. A drip system with pumps and filtering equipment mounted on a movable trailer may be the irrigation method of choice. This might help to offset some of the high costs associated with drip as most of the system will be relocated after irrigation is phased out in each area. Drip will cut down on water usage and help to prevent the establishment of weeds. Pre-irrigation will be a must for all transplants.

Currently, the plan is to expand phase 1 of the revegetation to an additional 60 acres of fallow farmland directly adjacent to the south and west of the test plot. Another 40 acres of recently irrigated land located directly across the Winter's wash

to the east will also be included. This planting will take place sometime between November 2001 and January 2002. The techniques to be implemented on these lands will include the use of transplants and drip irrigation. The transplants will be hand planted using farm labor. A pre-emergent herbicide will be used. Fencing will not be used. Ripping will not be used.

III. PRELIMINARY OBSERVATIONS*

The most obvious problems were those associated with the mechanical transplanter. The transplanter was designed to transplant tobacco, and so was not designed to plant into ground that had not been tilled and prepared as in conventional agriculture. The randomization of treatments was also a problem for the transplanter, as it was designed to plant in paired rows. The net result is that the majority of the transplants were not placed firmly into the ground by the transplanter, but rather just placed onto the soil surface, where they had to be handled a second time by farm laborers to actually plant them in the ground. Mechanically planted liners into dry soil have approximately 30% initial establishment. Mechanically planted liners did not withstand deep furrow flood irrigation and did poorly under drip as well. In contrast, hand-planting of small liners was >90% successful when soil was pre-irrigated and then plants were individually irrigated immediately after.

In general, the inability to pre-irrigate was very detrimental to the survival of the transplants. However, this did not seem to have as great of an effect on the 1-gallon plants as on the liners. This may be due in part to the fact that the pre-dug 1-gallon holes were filled with water just prior to planting. They were also individually watered immediately after planting. Other factors that might be involved are the older age and more developed root structure of the 1-gallon plants. Another benefit of the 1-gallon plants is that they handled the deep furrow flood irrigation extremely well. Greater than 90% success was achieved using 1-gallon plants placed into a dry field with a watered hole.

The drip system experienced many problems as well. The initial setup was delayed, preventing the timely application of the initial irrigation. Also, the east end of the drip lines do not appear to receive as much water as the west end of the lines. The drip system continues to drip for many days after being turned off, resulting in standing water. This is detrimental to both transplants and seeds due to oxygen deprivation and salt buildup. In addition, the continuously moist surface is likely to facilitate the re-establishment of salt cedar.

Seed germination is occurring in both drip and flooded plots, but seems to be less abundant and diverse in flooded plots. The aerial application of Roundup appears to have been very effective in killing off the developing tumbleweed population. The irrigation application of Prowl has been reasonably effective in inhibiting the initial development of weeds. Thus far, no significant herbivory has been observed outside the fence.

*These are preliminary observations subject to change based on additional observation and data collection

IV. LITERATURE CITED

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Munda, B. 1985. USDA-NRCS Tucson Plant Materials Center. Vegetative treatment of abandoned cropland in the Sonoran Desert to reduce soil erosion. Plant Materials Technical Note No. 4.

Thacker, G.W., and J.R. Cox. How to establish a permanent vegetation cover on farmland. Pima County Cooperative Extension, University of Arizona, Tucson, Arizona.

Zone 4: Wildlife Habitat Management Area
Goal: Provide enhanced wildlife habitat in the project area.

Representatives of Duke Energy and the Arizona Game and Fish Department have had excellent discussions over recent months to determine how best to accomplish improvements to existing habitat. These discussions have frequently included both the Arizona Game and Fish Department and University of Arizona to gain as much synergy from the two efforts; the goal is to encourage both game and non-game species. Most recently, site visits have been made with the Arizona Game and Fish Department and with a regional representative of Ducks Unlimited. The next step is to develop a habitat plan. That plan will include recommendations on the various options that might be considered in the development of a wildlife habitat program.

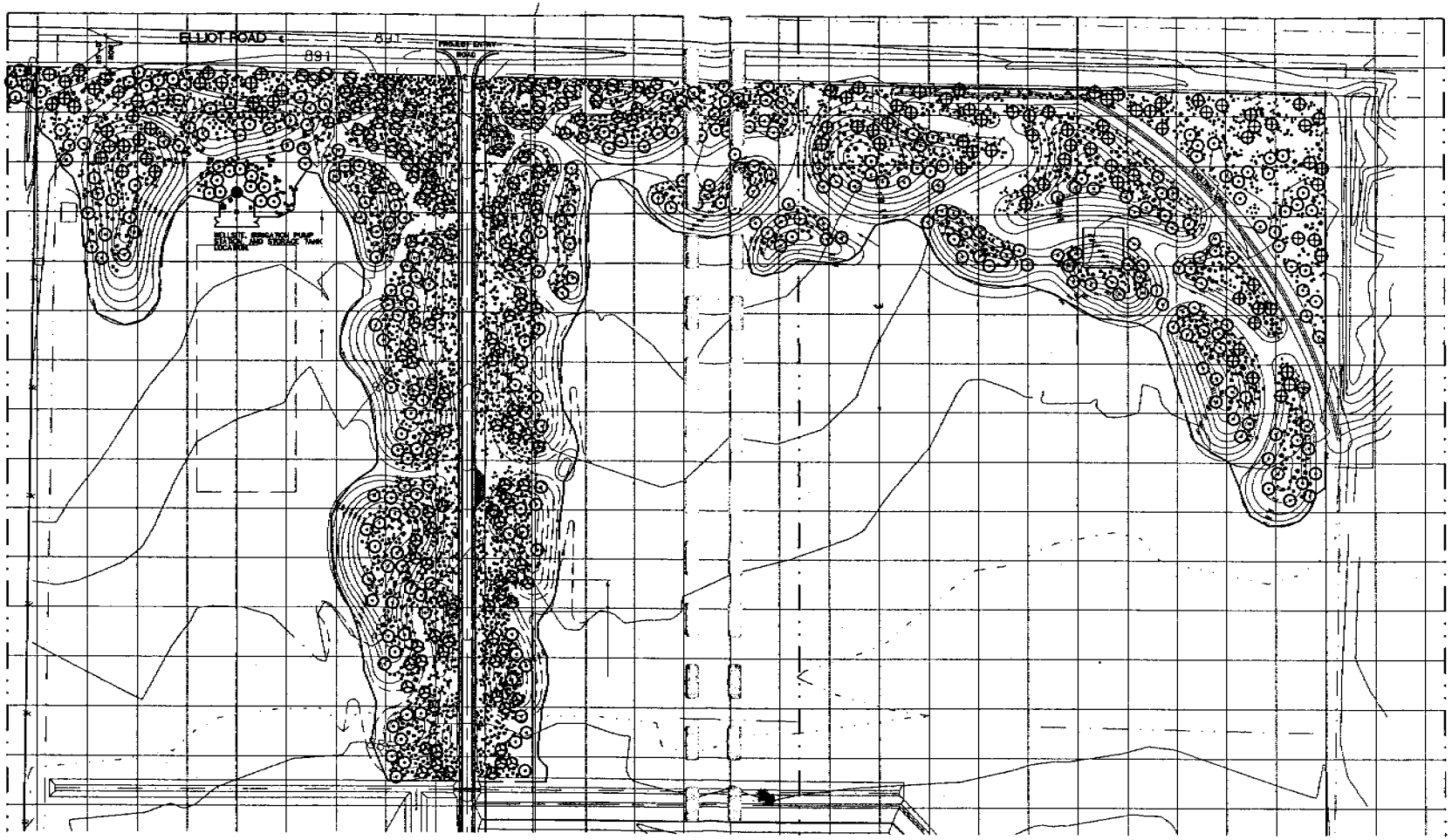
Zone 5: Centennial Wash
Goal: Protect existing riparian vegetation

The project contains only a small portion of land that has not been extensively managed for agricultural production. This area located in the southeastern portion of

the site is in Centennial Wash and contains a functioning riparian ecosystem. Duke Energy continues to maintain the area in its current state.

Conclusion

The Land Management Plan for the Arlington Valley Energy Project is progressing well. Duke Energy continues to work with its outside contractors including a professional landscaping firm, the University of Arizona, and the Arizona Game and Fish Department. These efforts have resulted in the implementation of the landscape plan, a comprehensive test plot by the University of Arizona to study the best methods for large-scale revegetation and conceptual meetings with the Arizona Game and Fish Department regarding enhanced wildlife habitats.



PLANT LEGEND

	COMMON NAME	BOTANICAL NAME	QUANTITY	SIZE	NOTES
TREES	SWEET ACACIA	ACACIA SMALII	37	36" BOX	
	BLUE PALO VERDE	CERCIDIUM FLORIDUM	57/51	24"/36"BOX	36" BOX NOTED ON PLAN
	FOOTHILL PALO VERDE	CERCIDIUM MICROPHYLLUM	100	24" BOX	
	CHILEAN MESQUITE	PROSOPIS CHILENSIS	251/13	15 G./24" BOX	24" BOX NOTED ON PLAN
	VELVET MESQUITE	PROSOPIS VELUTINA	34	24" BOX	
	DESERT HACKBERRY	CELTIS PALLIDA	11	36" BOX	
SHRUBS	LITTLELEAF CORDIA	CORDIA PARVIFOLIA	507	5 GAL.	
	BLACK DALEA	DALEA FRUTESCENS "SIERRA NEGRA"	348	5 GAL.	
	BRITTLE BUSH	ENCELIA FARINOSA	1548	5 GAL.	
	CHUPAROSA	JUSTICIA CALIFORNICA	434	5 GAL.	
	CREOSOTE BUSH	LARREA TRIDENTATA	804	5 GAL.	

ACCENTS/CACTI	PLAQUE AGAVE	AGAVE [illegible]	157	5 GAL.	
	SAGUARO	CARNE[illegible] GIGANTEA	28	6' SPEAR	
	OCOTILLO	FOUQUIERIA SPENDENS	188	6' TO 10', 10 CANE	
	SACAHUISTA	NOLINA MICROCARPA	146	5 GAL.	
GROUNDCOVERS	AUSTRALIAN SALTBUSH	ATRIPLEX SEMIBACCATA	260	5 GAL.	
	DWARF DESERT BROOM	BACCHARIS 'CENTENNIAL'	240	5 GAL.	
	SANDPAPER VERBENA	VERBENA RIGIDA	323	1 GAL.	
	DECOMPOSED GRANITE	DESERT [illegible]	1,579,000 SF.	3/4" MINUS, 1" DEPTH. RANDOM COVER OF 1'-3" D.G. COBBLE*	

*PER SPECIFICATIONS

SCALE: 1"=100'-0"

0' 50' 100' 200' 300'

NORTH

ARLINGTON VALLEY ENERGY FACILITY
387th AVE. & ELLIOT ROAD
ARLINGTON, AZ.

DUKE ENERGY MARICOPA, LLC.
36405 W. MCKI[illegible]
BUCKEYE, AZ. 85326

Todd & Associates, Inc.
Architecture/Planning/Landscape Architecture
[illegible]